CLAIMS

1. An optical disc drive for irradiating a laser beam to an optical disc to record and/or reproduce information signals, comprising:

a laser source which oscillates in multimode;

a first plane-of-polarization preserving fiber; and

a second plane-of-polarization preserving fiber;

the first plane-of-polarization preserving fiber and the second plane-of-polarization preserving fiber forming an optical path for transmitting the laser beam irradiated from the laser source, variation of polarization state which arises due to the transmission of the laser beam by one of the plane-of-polarization preserving fibers being compensated by the other of the plane-of-polarization preserving fibers.

2. The optical disc drive as set forth in Claim 1, wherein the first plane-of-polarization preserving fiber and the second plane-of-polarization preserving fiber are of the same length, and each of the fibers has a fast axis and the fast axes of the fibers are perpendicular to each other.

3. The optical disc drive as set forth in Claim 1, wherein the information signals recorded on the optical disc are read out by detecting rotation of a plane of polarization of the irradiated laser beam due to photomagnetic effect, and the first plane-of-polarization preserving fiber and the second plane-of-polarization preserving fiber transmit the returned laser beam from the optical disc with the state of the plane of polarization of the returned laser beam preserved.

4. An optical disc drive for irradiating a laser beam to an optical disc to record and/or reproduce information signals, comprising:

a laser source which oscillates in multimode;

a first phase difference plate;

a plane-of-polarization preserving fiber; and

a second phase difference plate;

the laser beam of linear polarization irradiated from the laser source being changed to the laser beam of circular polarization or elliptical polarization by the first phase difference plate to be transmitted by the plane-of-polarization preserving fiber, and being changed to the laser beam of linear polarization by the second phase difference plate to be irradiated to the optical disc, and

the returned laser beam of linear polarization from the optical disc being changed to the laser beam of circular polarization or elliptical polarization by the second phase difference plate to be transmitted by the plane-of-polarization preserving fiber, and being changed to the laser beam of linear polarization by the first phase difference plate.

5. The optical disc drive as set forth in Claim 4, wherein both of crystal optical axes of the first phase difference plate and the second phase difference plate incline by 45 degrees against a fast axis of the plane-of-polarization preserving fiber, and the linearly polarized beam from the laser source which inclines by 45 degrees against the crystal optical axis of the first phase difference plate comes into the first phase

difference plate.

6. The optical disc drive as set forth in Claim 4, wherein the information signals recorded on the optical disc are read out by detecting rotation of a plane of polarization of the irradiated laser beam due to photomagnetic effect, and the first phase difference plate, the plane-of-polarization preserving fiber, and the second phase difference plate transmit the returned laser beam from the optical disc with the state of the plane of polarization of the returned laser beam preserved.

7. An optical pickup, comprising:

a laser source which oscillates in multimode;

a condensing lens for condensing a laser beam irradiated from the laser source to irradiate the condensed laser beam to an optical disc, and condensing the returned laser beam from the optical disc;

a beam detecting means for detecting the returned laser beam from the optical disc condensed by the condensing lens;

a first plane-of-polarization preserving fiber; and

a second plane-of-polarization preserving fiber;

the first plane-of-polarization preserving fiber and the second plane-of-polarization preserving fiber forming an optical path for transmitting the laser beam irradiated from the laser source, variation of polarization state which arises due to the transmission of the laser beam by one of the plane-of-polarization preserving fibers being compensated by the other of the plane-of-polarization preserving fibers.

8. The optical pickup as set forth in Claim 7, wherein the first plane-of-polarization preserving fiber and the second plane-of-polarization preserving fiber are of the same length, and each of the fibers has a fast axis and the fast axes of the fibers are perpendicular to each other.

9. The optical pickup as set forth in Claim 7, wherein the information signals recorded on the optical disc are read out by detecting rotation of a plane of polarization of the irradiated laser beam due to photomagnetic effect, and the first plane-of-polarization preserving fiber and the second plane-of-polarization preserving fiber transmit the returned laser beam from the optical disc with the state of the plane of polarization of the returned laser beam preserved.

10. An optical pickup, comprising:

a laser source which oscillates in multimode;

a condensing lens for condensing a laser beam irradiated from the laser source to irradiate the condensed laser beam to an optical disc, and condensing the returned laser beam from the optical disc;

a beam detecting means for detecting the returned laser beam from the optical disc condensed by the condensing lens;

a first phase difference plate;

a plane-of-polarization preserving fiber; and

a second phase difference plate;

the laser beam of linear polarization irradiated from the laser source being

changed to the laser beam of circular polarization or elliptical polarization by the first phase difference plate to be transmitted by the plane-of-polarization preserving fiber, and being changed to the laser beam of linear polarization by the second phase difference plate to be irradiated to the optical disc via the condensing lens, and

the returned laser beam of linear polarization from the optical disc being condensed by the condensing lens and changed to the laser beam of circular polarization or elliptical polarization by the second phase difference plate to be transmitted by the plane-of-polarization preserving fiber, and being changed to the laser beam of linear polarization by the first phase difference plate to be transmitted to the beam detecting means.

11. The optical pickup as set forth in Claim 10, wherein both of crystal optical axes of the first phase difference plate and the second phase difference plate incline by 45 degrees against a fast axis of the plane-of-polarization preserving fiber, and the linearly polarized beam from the laser source which inclines by 45 degrees against the crystal optical axis of the first phase difference plate comes into the first phase difference plate.

12. The optical pickup as set forth in Claim 10, wherein the information signals recorded on the optical disc are read out by detecting rotation of a plane of polarization of the irradiated laser beam due to photomagnetic effect, and the first phase difference plate, the plane-of-polarization preserving fiber, and the second phase difference plate transmit the returned laser beam from the optical disc with the state

of the plane of polarization of the returned laser beam preserved.